3. Alignment and Adjustment

3-1. VCR Adjustment

3-1-1. VCR Adjustment Preparation

1. How to get into the VCR adjust mode.

STEP 1

1. Connect the power source.
2. Set the mode switch of the video camera to "PLAYER" position.
3. Insert standard tape into the video camera and set to "PLAY" position.
4. Press the "PLAY" button on the video camera or the remote control

STEP 2

1. Press and hold the "F.ADV" button on the remote control and "ENTER" button on the video camera at the same time for more than 10 seconds.
2. When monitor OSD appears as shown below, VCR adjustment mode has been activated successfully.
3. When changing the adjustment item after the adjusted value is designated, press the "START/STOP" button.

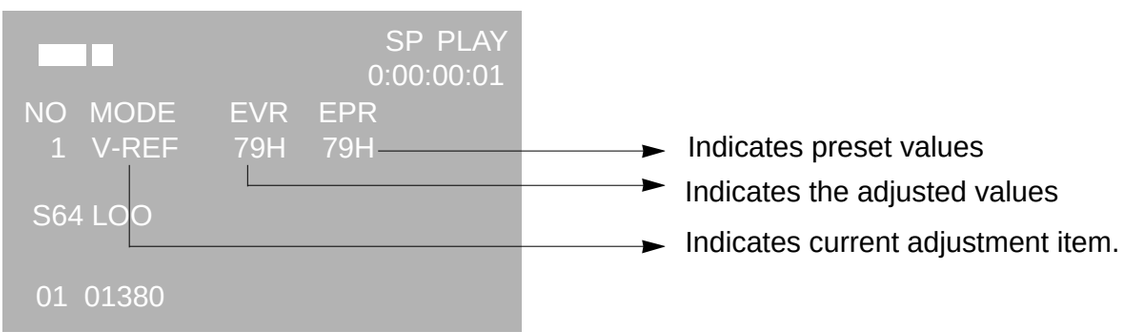


Fig.1. RIGHT CASE

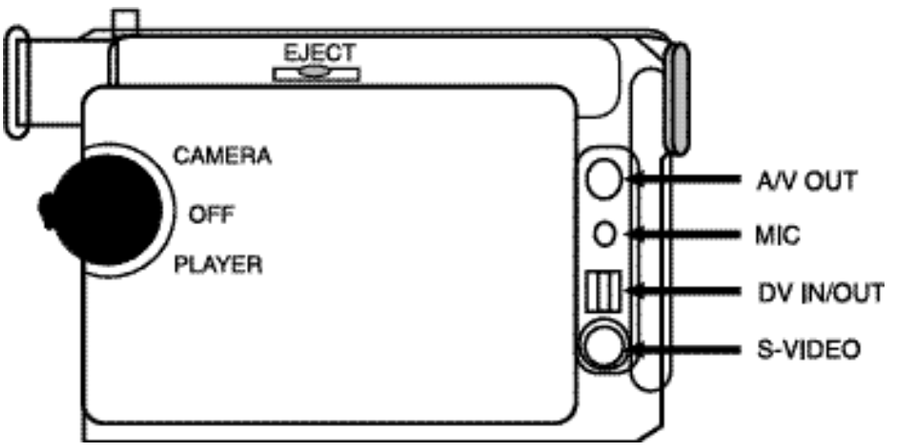
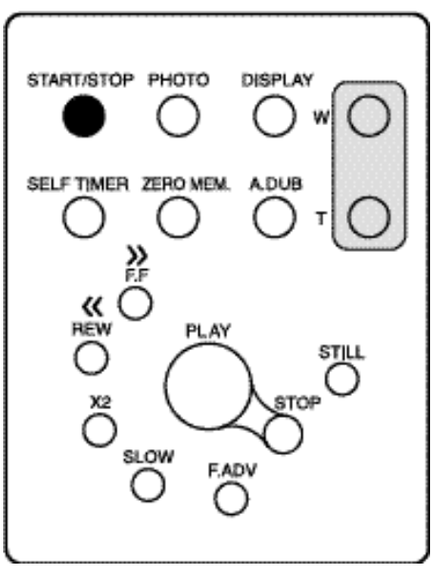


Fig.2. REMOCON KEY



STEP 3 . If you want to finish the adjustment mode, you have to do Power Reset.
The Power Reset means that you pull out the power source and pull in it again.

3-1-2. VCR Adjustment

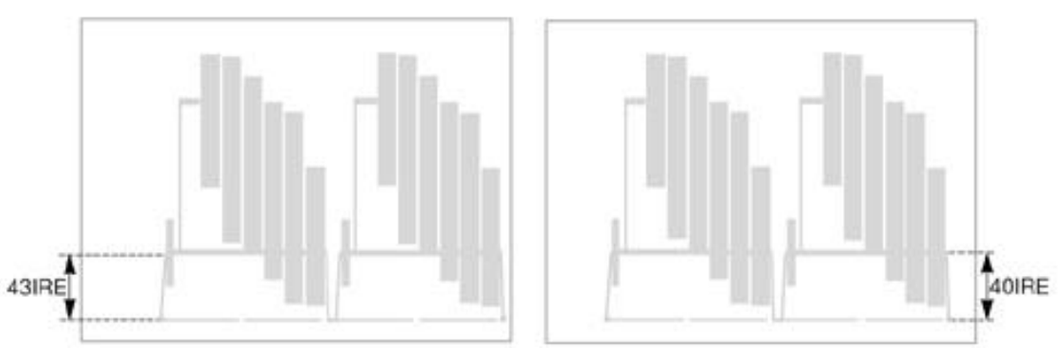
1. VCR Adjustment Items

Items	Adj. value	Description
V-REF	Adjustment	Video reference
EXTRA	7D	Audio VCO PLL
RECCUR	80	REC current
A-REF1	80	Audio 48KHz mode
A-REF2	80	Audio 44.1KHz mode
A-REF3	80	Audio 32KHz mode
HDSWP	Adjustment	Head Adjust switch
ZOOMVR	Adjustment	Adjust center value in the ZOOM switch
OPTION	MODEL OPTION	RESERVED(fixed value)
DUBCUR	80	DUB REC CURRENT

* MODEL OPTION

Model	Adj.value	Model	Adj.value
VP-D73	C2	VP-D75i / SCD75	CE
SCD73 / VP-D73i	C6	VP-D76i	D6
VP-D75	CA	VP-D77i	D6
VP-D76 / VP-D77	D2	SC-D77	D6

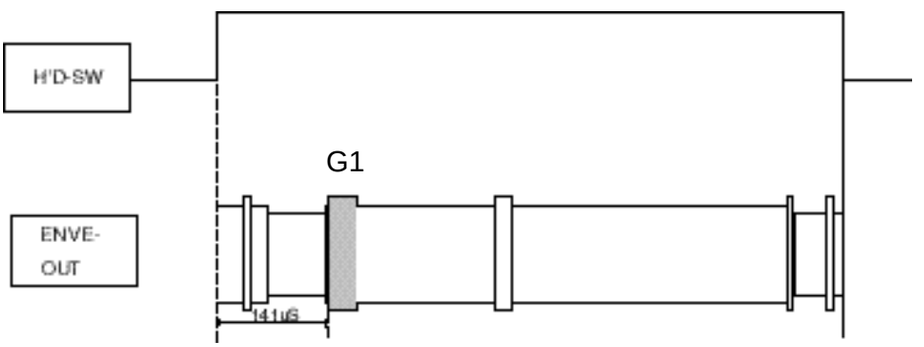
2. How to adjust Video-Reference (V-REF).
   1) Connect video output cable to wave form scope. The wave form scope must be connected to monitor. (75Ω termination)
   2) Set to the VCR adjustment mode.
   3) Adjust VREF so that SYNC level of video output signal is PAL(43 IRE) and NTSC(40 IRE).



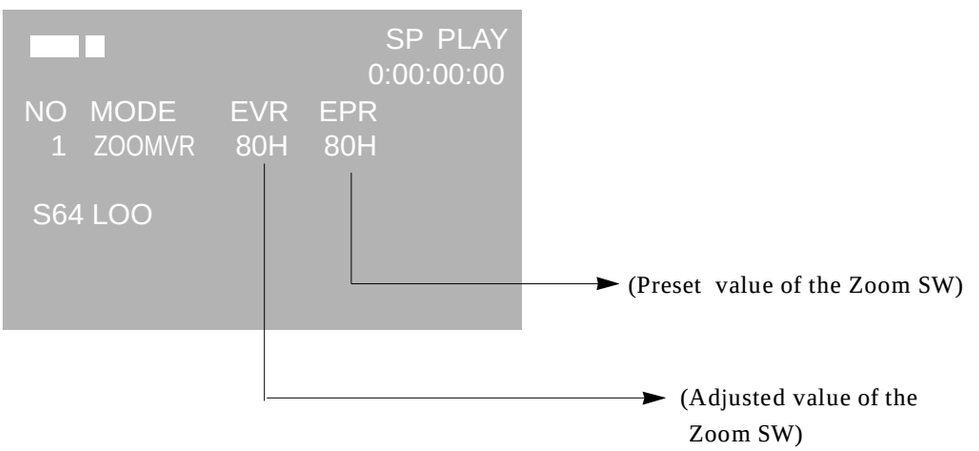
PAL NTSC

3. How to adjust Head Switching (HDSWP)

1) Connect No. 2 pin of WAFER CNR02 (HEAD-SW signal) for adjustment to CH1 of oscilloscope.
2) Connect No. 3 pin of WAFER CNR02 (ENVE-OUT signal) for adjustment to CH2 of oscilloscope.
3) Play standard tape.
4) Select HDSW of the video adjustment mode.
5) Adjust so that the time between HEAD-SW START and G1 START OF ENVE-OUT is 141μs (±10μs).



4. Center Value Adjustment of Zoom Switch



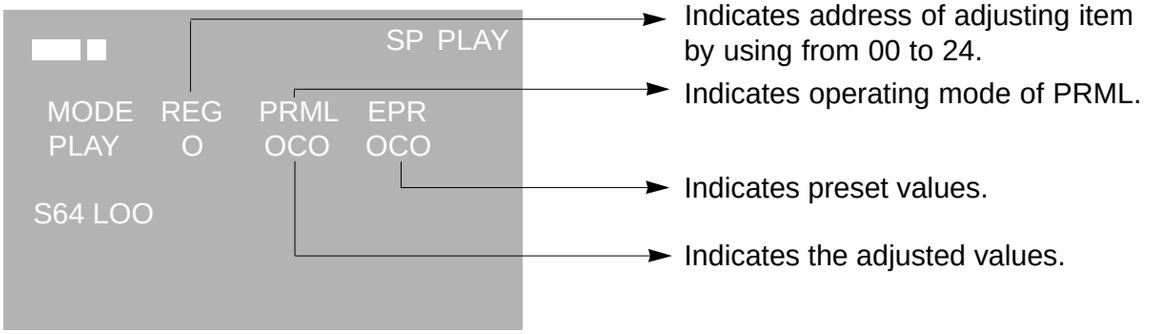
1) Select ZOOMVR in the video adjustment mode.
2) Adjust ZOOM SW so that the switch is put in the middle of T and W.
3) Adjust ZOOMVR so that the current value of ZOOM SW is equal to the adjusted ZOOMVR value.

3-1-3. PRML Adjustment Preparation

1. How to set up PRMLAdjustment Mode

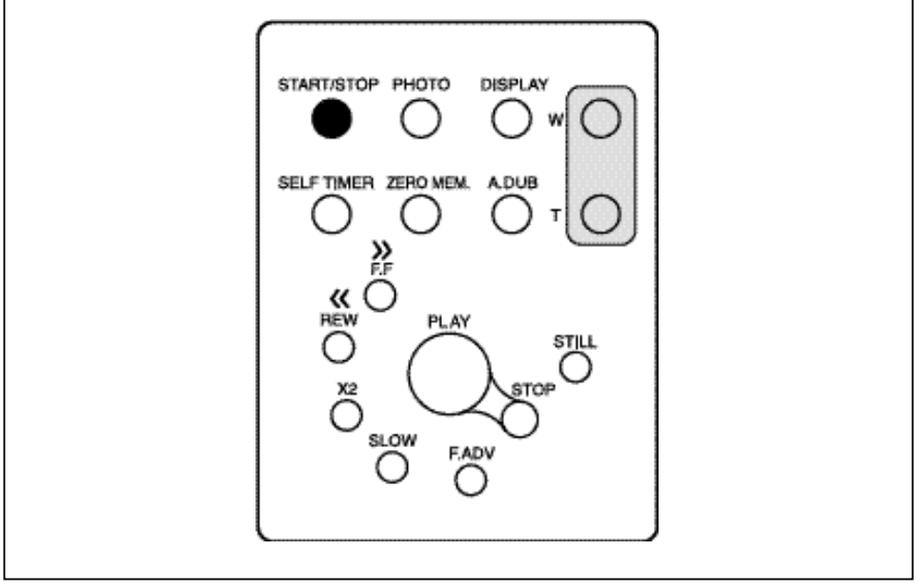
PRML Adjustment Setup

1. Press the Display button in VCR adjustment mode.
2. When monitor OSD appears as shown below, PRML adjustment mode has been activated successfully.


SP PLAY
MODE REG PRML EPR
PLAY O OCO OCO
S64 LOO
Indicates address of adjusting item by using from 00 to 24.
Indicates operating mode of PRML.
Indicates preset values.
Indicates the adjusted values.

2. Remote Control Button Location

Remote Control



3. Press the Address selection button(START/STOP button) to skip the next address in order to finish the adjustment and store data. After finishing the adjustment, you have to do power reset.

* The PRML BER will be set to the right adjustment when shipping out video camera and PCB ASSY from factory.

3-1-4. PRML Adjustment

1. How to set up PRMLAdjustment Mode

Address	Name	MODE				
		SP		LP		VP
		PB	SEARCH/SLOW	PB	SEARCH	SLOW
00	PGC/SQPI/FIRO	0C0	0C0	0C0	0C0	0C0
01	IDO/DOD/ATFAQ/FIR4	000	000	000	000	000
02	GDH0/FIR1H0	300	300	7C0	7C0	7C0
03	GDH1/FIR1H1	300	300	7C0	7C0	7C0
04	LPGC/DATF/PGCEN/TDOI/FIR3H0	400	400	400	400	400
05	BPGC/FCLP/FIR3H1	600	600	500	500	500
06	LTG/LPGC/BPLG/TC13/TC2/FIR2	805	805	805	805	805
07	ATFFC/DOHG/ATFHG/HGSEL/SLEEP	#00	#00	#00	#C0	#80
08	DDOSC/SEFTH/DLZI/TADAPT/VIT	21E	A1E	228	A28	A28
09	ATFSEL/SYMC/DAMP	223	223	223	223	223
0A	EZCNT/LPFBYP/PDTST/...	004	004	2CA	200	200
0B	HLD/FCHO/BSTH0	22A	28A	2CA	28A	28A
0C	CMXEN/FCH1/BSTH1	22A	28A	865	28A	28A
0D	ATGH0/DOGCH0/TP1SEL	F65	865	F65	F55	F55
0E	ATGCH1/DOGCH1/TSEL	860	860	860	850	850
0F	FRQ/RLZSEL/...	00F	00F	00F	00F	00F
24	AE/DZ/INTL/.../TWR	FA2	7A2	FAF	7AF	7AF

2. BER Adjustment Specifications (Reference)

1) Get into the VCR adjustment mode.
;Press and hold the “F.ADV” button on the remote control and “ENTER” button on the video camera at the same time for more than 10 seconds.

2) Turn off Adaptive. .....7A2 ;REG24

3) Find out the optional minimum BER value in REG. 12 BOOST.
start values .....28A ;REG12
The optimum means the number error is less than 10 EA. ;Current D73/D75/D76/D77 manufacturing standard

If the minimum value is as the followings, designate as the right values.
Min ..... ;Selection valueless
iess than 18 .....18 ;REG12===24A
19 .....19 ;REG12===26A
20 .....20 ;REG12===28A

4) Find out the optimally minimum BER value in REG. 11 BOOST.

start values 28A	;REG11
The optimum means the number of error is less than 10 EA.	;Current D73/D75/D76/D77 manufacturing standard

If the minimum value is as the followings, designate as the right values.
[Add +2 to select the one.]

Min	;Selection valueless
less than18 18	;REG11 ===24A
19 19	;REG11 ===26A
20 20	;REG11 ===28A
21 21	;REG11 ===2AA

5) Turn on Adaptive. . . . . ;REG24 ===FA2

6) Check the value is input to unit correctly.

3-2 Camera Adjustment

Note: How to adjust the camera system.

1) EEPROM stores confirmed adjustment value of each adjustment step.
2) DSP (Digital Signal Process : ICP04-MAIN BOARD) digitalizes the camera signal.
3) When changing IC404-MAIN BOARD of EEPROM, readjust main board. While changing LCD board- and EVF board- always readjust each part.
   Since EEPROM stores confirmed adjustment value of each adjustment step, readjusting must be performed in order to store the changed data.
4) Adjust the following items after changing LENS ASSY.
   a. LENS ZOOM TRACK
   b. AUTO HALL
   c. AUTO IRIS
5) Adjust the following items after changing EEPROM and MAIN BOARD.
   a. LENS ZOOM TRACK
   b. AUTO HALL
   c. AE TARGET
   d. AUTO GAIN CONTROL
   e. AUTO IRIS
   f. AUTO WHITE BALANCE (indoor)
   g. AUTO WHITE BALANCE (outdoor)

3-2-1 Adjustment Preparation

1. Measuring Instrument

1) DC power supply
2) Oscilloscope
3) PAL vectorscope, NTSC Vectorscope
4) PAL wave form monitor, NTSC wave fonitor
5) PAL TV or monitor, NTSC TV or monitor
6) Color bar chart
   Gray scale chart

2) Camera Pcb configuration

1) Main PCB
2) CCD PCB
3) EVF PCB
4) LCD PCB

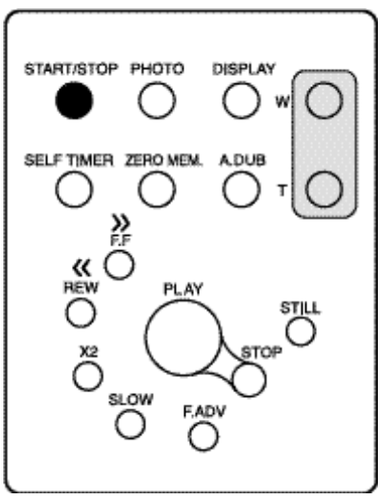
3. Before you start

1) Use the buttons on the remote control when adjusting camera.
2) Press the "START/STOP" button when storing confirmed adjustment value of each adjustment step in EEPROM.
3) There is a flicker on screen after finishing each adjustment step.
4) To clear the adjustment mode, pull out the power source.

4. Functions of each button on the Remote Control

Button	Description
START/STOP (Confirm)	Stores changed value in the adjustment and auto adjustment mode.
STOP (Data Down)	Changes data in the adjustment state.
PLAY (Data Up)	
FF (Mode Up)	Changes mode.
REW (Mode Down)	
SELF TIMER	Pre-confirm

In adjustment mode, the buttons of the remote control is as the followings.



Note: In service adjustment mode, button names are different from those in customer function control mode.
e.g.) "START/STOP" is the same as "Confirm".

5. How to set up the camera adjustment mode

STEP 1

1) Connect the power source (battery/DC cable).
2) Open Housing from video camera.
3) Set the "POWER(CAMERA/PLAY-ER)" switch to "CAMERA" position.
4) The OSD appears.

Note : "XX" indicates variable values.

STEP 2

Press and hold the "EDIT(+)" button and "ENTER" button on the video camera at the same time for more than 5 seconds.

STEP 3

Monitor OSD shows "16D XX XX". Then camera adjustment mode has been activated successfully.

Addr.	NTSC	PAL	NAME
0	0	0	H1_INV
1	0	0	HCNT_SET
2	AA	55	H1_DLY
3	23	1	SHP_DLY
4	7A	2A	ADCLK_DLY
5	33	33	SHP_WITH
6	A7	A6	V_SKIP
7	0	0	FLD_INV
8	0	0	Hi_SHUT_VAL
9	0	0	Lo_SHUT_VAL
A	8B	8A	FCM_Addr_Lo
B	0	0	FCM_Addr_Hi
C	1	0	ITUR601
D	10	10	RG_SEL
E	0	0	DAC0_PIN51
F	0	0	DAC1_PIN52
10	FF	FF	H_ZM_RATIO
11	4	2	H_ZM_START
12	0	0	H_ZM_SUB
13	0	0	V_ZM_RATIO
14	1	1	V_ZM_SUB_Odd
15	30	37	V_ZM_SKIP
16	0	0	YC_DLY
17	E0	E0	Linear/Spline
18	1	21	UVCLK_INV
19	B5	B5	H_Mirr_Addr
1A	68	68	F_Mirr_Addr
1B	C0	0	H_MOSAIC
1C	C0	C0	V_MOSAIC
1D	38	38	HSIZE_AUTO_ZM
1E	38	38	VSIZE_AUTO_ZM
1F	0	0	H1_INV
20	10	13	ADCLK_DLY
21	FB	FB	P_OFFSET
22	10	10	P_THR
23	0	0	P_RAM_Hi
24	0	0	P_RAM_Mdl
25	0	0	P_RAM_Lo
26	20	20	P_FIND_CNT
27	10	E	P_WH_START
28	E8	E4	P_WH_END
29	8	8	P_WV_START
2A	77	8E	P_WV_END
2B	0	0	P_TEST
2C	0	0	PATTERN_GEN
2D	0	0	
2E	0	0	
2F	0	0	
30	A8	AD	YV_APT_BKTH

Addr.	NTSC	PAL	NAME
31	E	E	YH_APT_GN_POSI
32	CE	CE	YV_APT_GN_POSI
33	4	2	YAPT_NSlice
34	D8	D8	Y_Hi_REF
35	78	78	EDGE_REF
36	E0	E0	YV_APT_LPF_SEL
37	6	6	YAPT_NS_AftGMA
38	F8	F8	YWC
39	7C	7C	Y_APT_Clip
3A	62	62	YD_ENH_TH/GAIN
3B	B1	A9	YV_APT_GN_NEGA
3C	59	69	YH_APT_GN_NEGA
3D	8F	8F	HiFALL/EGFALL
3E	0	0	
3F	0	0	
40	98	98	Y_GAIN
41	90	90	DSE_Y_GAIN
42	8A	8C	C_GAIN
43	0	0	YART
44	C0	C0	YH_PST/EMBO_GN
45	52	52	PSTL_OFFET
46	35	35	EMBO_OFFSET
47	60	60	GRP_DLY
48	0	0	
49	0	0	
4A	0	0	
4B	0	0	
4C	0	0	
4D	0	0	
4E	0	0	
4F	0	0	
50	A8	A8	DYV_APT_BKTH
51	C	C	DYHAPT_GN_POSI
52	50	50	DYHAPT_GN_NEGA
53	C	C	DYVAPT_GN_POSI
54	B0	A0	DYVAPT_GN_NEGA
55	10	10	DY_APT_NSlice
56	70	70	DY_APT_Clip
57	0	0	DYHiLight_GN
58	6	6	DYAPT_NS_GAM
59	62	62	DYDet_EN_TH/GN
5A	10	10	DYVAPT_LPF_SEL
5B	36	36	DWH_START
5C	A5	A5	DWH_END
5D	2D	2D	DWV_START
5E	7F	7F	DWV_END
5F	0	0	
60	6	6	S1/S2_SEL
61	46	46	CR_COEF

Addr.	NTSC	PAL	NAME
62	66	66	CB_COEF
63	D	C	CRDS
64	FC	FE	CBDS
65	0	0	CGDS
66	0	0	CRCB_WB_Hi
67	33	32	CRWB
68	9D	A6	CBWB
69	24	24	CGWB
6A	59	59	CRRG
6B	D9	D9	CBRG
6C	F2	F2	CRBG
6D	72	72	CBBG
6E	0	0	
6F	0	0	
70	90	9C	C_RY_GP
71	90	90	C_RY_GN
72	12	12	C_RY_HP
73	12	12	C_RY_HN
74	5E	60	C_BY_GP
75	58	5D	C_BY_GN
76	17	17	C_BY_HP
77	A	A	C_BY_HN
78	8	0	C_KEY_Slope1
79	10	0	C_KEY_Slope2
7A	0	0	CKEY_Slpe12_Hi
7B	0	0	C_HUE_FIX
7C	0	0	
7D	0	0	
7E	0	0	
7F	0	0	
80	2	2	Y_GAMMA1
81	7	7	Y_GAMMA2
82	12	12	Y_GAMMA3
83	28	28	Y_GAMMA4
84	44	44	Y_GAMMA5
85	68	68	Y_GAMMA6
86	9A	9A	Y_GAMMA7
87	EA	EA	Y_GAMMA8
88	2	2	C_GAMMA1
89	7	7	C_GAMMA2
8A	12	12	C_GAMMA3
8B	28	28	C_GAMMA4
8C	44	44	C_GAMMA5
8D	68	68	C_GAMMA6
8E	9A	9A	C_GAMMA7
8F	EA	EA	C_GAMMA8
90	5C	5C	AF_W1H_STRT
91	A0	A0	AF_W1H_END
92	27	35	AF_W1V_STRT

Addr.	NTSC	PAL	NAME
93	5F	79	AF_W1V_END
94	14	13	AF_W2H_STRT
95	E4	E3	AF_W2H_END
96	8	9	AF_W2V_STRT
97	76	8E	AF_W2V_END
98	14	13	AE_W1H_STRT
99	E4	E3	AE_W1H_END
9A	8	9	AE_W1V_STRT
9B	76	8E	AE_W1V_END
9C	48	47	AE_W2H_STRT
9D	B0	AF	AE_W2H_END
9E	23	2A	AE_W2V_STRT
9F	5A	6C	AE_W2V_END
A0	17	16	AWB_H_STRT
A1	E7	E6	AWB_H_END
A2	8	9	AWB_V_STRT
A3	76	8E	AWB_V_END
A4	FF	FF	AE_THR_HiGH
A5	0	0	AE_THR_LOW
A6	B0	B0	AWB_THR_HiGH
A7	40	40	AWB_THR_LOW
A8	B0	B0	AF_Clip_THR
A9	F0	F0	AE_Clip_THR
AA	4	4	OZONE_SEL
AB	0	0	
AC	0	0	
AD	0	0	
AE	0	0	
AF	0	0	
B0	0	0	DIS-DIS ON
B1	98	98	DIS-FRAME
B2	A0	E0	DIS-DVC
B3	0	0	DIS-KX
B4	0	0	DIS-KY
B5	B2	B2	DIS_SP_H
B6	16	1A	DIS_SP_V
B7	C0	C0	DIS_WIDTHL
B8	3	3	DIS_WIDTHH
B9	F2	1F	DIS_HEIGHTL
BA	0	1	DIS_HEIGHTH
BB	E2	E2	DIS_PIP_HSPL
BC	2	2	DIS_PIP_HSPH
BD	90	A6	DIS_PIP_VSPL
BE	0	0	DIS_PIP_VSPH
BF	B6	DE	DIS_PBOX_HSPL
C0	2	2	DIS_PBOX_HSPH
C1	AE	CF	DIS_PBOX_VSPL
C2	0	0	DIS_PBOX_VSPH
C3	20	20	DIS_PIP_DSP_HADJ
C4	2	2	DIS_PIP_DSP_VADJ

Addr.	NTSC	PAL	NAME
C5	20	22	DIS_PBOX_DSP_HADJ
C6	1	2	DIS_PBOX_DSP_VADJ
C7	9B	9B	DIS_OUT_OFF
C8	9B	9B	DIS_OUT_OFF1
C9	B5	B5	DIS_GR_MODE
CA	A	C	DIS_CLK2_SEL
CB	A0	C0	DIS_SIS2_SEL0
CC	25	24	DIS_OSD_SEL
CD	0	0	DIS_PIP_SIS2_SEL
CE	1E	1E	DIS_DCLP_R
CF	24	24	DIS_DCLP_F
D0	4	4	DIS_YHAFS
D1	C0	80	DIS_APCLP
D2	8	6	DIS_APSC
D3	0	0	DIS_ECST
D4	0	0	DIS_ECSG
D5	83	83	DIS_G1
D6	8F	8D	DIS_G0
D7	0	0	DIS_HUE1_OFF
D8	0	0	DIS_ECHUE1
D9	0	0	DIS_ECHUE2
DA	10	10	DIS_APSCV
DB	F0	F0	DIS_WV1
DC	90	90	DIS_WH1
DD	4	4	DIS_OVERLAY
DE	0	0	DIS_T0
DF	10	10	DIS_MAN_T0
E0	2	2	DIS_TIIR_TH
E1	0	0	DIS_LINEAR
E2	0	0	DIS_GA0
E3	8	8	DIS_GA1
E4	10	10	DIS_GA2
E5	18	18	DIS_GA3
E6	20	20	DIS-GA4
E7	30	30	DIS_GA5
E8	40	40	DIS_GA6
E9	60	60	DIS_GA7
EA	7F	7F	DIS_GA8
EB	0	0	DIS_GB0
EC	8	8	DIS_GB1
ED	10	10	DIS_GB2
EE	18	18	DIS_GB3
EF	20	20	DIS_GB4
F0	30	30	DIS_GB5
F1	40	40	DIS_GB6
F2	60	60	DIS_GB7
F3	7F	7F	DIS_GB8
F4	60	60	DIS_SP_HM
F5	16	1A	DIS_SP_VM
F6	DC	7	DIS_HEIGHTML

Addr.	NTSC	PAL	NAME
F7	0	1	DIS_HEIGHTMH
F8	0	0	DIS_WIDTHML
F9	3	3	DIS_WIDTHMH
FA	FB	FB	DIS_KXMD
FB	FB	FB	DIS_KYMD
FC	F7	F7	DIS_OSD_MODE
FD	C1	C1	DIS_DIS_ENX
FE	0	0	DIS_OXL
FF	0	0	DIS_OXH
100	0	0	DIS_OY
101	0	0	DIS_CX
102	0	0	DIS_CY
103	41	22	DIS_AX/AY
104	33	33	DIS_AUTO_CENT
105	88	88	DIS_VGGAINX
106	21	21	DIS_VGSTEP
107	48	48	DIS_THR_SEL
108	11	11	DIS_CXY_BIAS
109	A5	A5	DIS_MATCHX_EN
10A	A5	A5	DIS_MATCHY_EN
10B	68	68	DIS_SHMFBC
10C	E0	E0	DIS_MVIIR_EN
10D	24	24	DIS_OZNSEL
10E	73	89	DIS_OAEVE_WB
10F	1D	21	DIS_OAEVS_WB
110	D4	D6	DIS_OAEHE_WB
111	26	2A	DIS_OAEHS_WB
112	61	70	DIS_OAEVE_WA
113	1C	25	DIS_OAEVS_WA
114	B1	B3	DIS_OAEHE_WA
115	4B	4F	DIS_OAEHS_WA
116	5F	79	DIS_OAFVE_W2
117	27	35	DIS_OAFVS_W2
118	A0	A0	DIS_OAFHE_W2
119	5C	5C	DIS_OAFHS_W2
11A	74	8A	DIS_OAFVE_W1
11B	5	3	DIS_OAFVS_W1
11C	C8	C8	DIS_OAFHE_W1
11D	2C	2C	DIS_OAFHS_W1
11E	0	0	DIS_OYL_TH
11F	FF	FF	DIS_OYH_TH
120	A8	80	DIS_OAECLIP_TH
121	B0	E8	DIS_OAFCLIP_TH
122	0	0	DIS_PFCNT_M1
123	10	10	DIS_PTHRESH
124	0	0	DIS_POFFSET
125	3	3	DIS_PCMD
126	0	0	DIS_PRAMIL
127	0	0	DIS_PRAMIM
128	0	0	DIS_PRAMIH

Addr.	NTSC	PAL	NAME
129	0	0	DIS_PRAMA_M1
12A	0	0	
12B	0	0	
12C	0	0	
12D	0	0	
12E	0	0	
12F	0	0	
130	0	0	CDS_CONTROL1H
131	0	0	CDS_CONTROL1L
132	0	0	CDS_AGCH
133	85	85	CDS_AGCL
134	0	0	CDS_HALL_GAINH
135	25	25	CDS_HALL_GAINL
136	0	0	CDS_HALL_REFH
137	C8	C8	CDS_HALL_REFL
138	0	0	CDS_COARSE_OFFSETH
139	0	0	CDS_COARSE_OFFSETL
13A	0	0	CDS_FINE_OFFSETH
13B	0	0	CDS_FINE_OFFSETL
13C	0	0	CDS_VBH
13D	0	0	CDS_VBL
13E	0	0	CDS_OPTBLACKH
13F	4	4	CDS_OPTBLACKL
140	0	0	CDS_HOT_PIXELH
141	1	1	CDS_HOT_PIXELL
142	0	0	CDS_COLD_PIXELH
143	0	0	CDS_COLD_PIXELL
144	0	0	CDS_CONTROL2H
145	4	4	CDS_CONTROL2L
146	0	0	CDS_BLANKH
147	0	0	CDS_BLANKL
148	0	0	CDS_DLY1_ADCLKH
149	8	0	CDS_DLY1_ADCLKL
14A	0	0	CDS_DLY2_SV_SRH
14B	22	1	CDS_DLY2_SV_SRL
14C	1	1	CDS_TESTH
14D	80	80	CDS_TESTL
14E	0	0	
14F	0	0	
150	0	0	MOTOR_HEADER
151	18	18	MOTOR_STARTTIME
152	1	1	MOTOR_DRIVETIME
153	8	8	MOTOR_CHOPPING
154	40	40	MOTOR_EXTPIN
155	44	44	MOTOR_EVRA
156	44	44	MOTOR_EVRB
157	0	0	MOTOR_CHECKSUM
158	0	0	
159	0	0	
15A	0	0	

Addr.	NTSC	PAL	NAME
15B	0	0	
15C	0	0	
15D	0	0	
15E	0	0	
15F	0	0	
160	80	88	D_EEP_IRISCONH
161	FF	FF	D_EEP_IRISCONL
162	7E	87	EEP_ae_iris95ire
163	2A	36	D_EEP_ae_target
164	14	18	D_EEP_ae_blc_target
165	20	20	D_EEP_ae_hallmin
166	DC	F4	D_EEP_ae_hallmax
167	53	58	D_EEP_ae_irismin
168	D6	E6	D_EEP_ae_irismax
169	22	22	D_EEP_ae_agcmin
16A	72	72	D_EEP_ae_agcmax
16B	10	10	D_EEP_ae_hallgainstr
16C	A4	A4	D_EEP_ae_halldiftar
16D	40	40	D_EEP_ae_agcmaptarget
16E	38	38	D_EEP_ae_tarpecnt
16F	20	22	BLC_target_percent
170	30	30	AE_clp_tar_ratio
171	1	1	AE_clp_tar_decmax
172	38	38	D_EEP_ae_startagc
173	CC	CC	D_EEP_ae_end_hvcore
174	55	44	D_EEP_ae_end_hgain
175	84	84	D_EEP_ae_end_vgain
176	10	18	D_EEP_ae_end_slice
177	2C	29	D_EEP_ae_csuppress
178	48	48	Iris_value(afhall)
179	90	90	AE_Hall_Adj
17A	14	14	AE_tar_marginsht
17B	6	6	AE_tar_margin
17C	F	F	AE_agcupstr
17D	2	2	AE_agcupamount
17E	8	8	DSP P_OFFSET cont
17F	4	4	EEP_AE_agcupsped
180	8	8	EEP_AE_method
181	0	0	EEP_AE_speed_down1
182	A	A	Iris control speed
183	5	4	EEP_AE_speed_down2
184	4E	4E	EEP_AE_damp_point
185	10	10	shutter control speed
186	10	10	AGC control speed
187	C6	E9	EEP_AE_datamax
188	60	50	EEP_AE_BLC_datamax
189	7	7	AE_adjtarh
18A	C1	C1	YV_APT_GN_NEGA
18B	69	71	YH_APT_GN_NEGA
18C	AD	AC	D_EEP_ae_end_hvcore

Addr.	NTSC	PAL	NAME
18D	0	0	D_DSP_POFFSET_TEST
18E	A0	A0	D_EEP_AE_haldifmin
18F	5	5	Tele_AE_Target
190	9F	A1	D_EEP_awb_b_3100
191	33	31	D_EEP_awb_r_3100
192	54	54	D_EEP_awb_b_5100
193	51	4F	D_EEP_awb_r_5100
194	A0	A6	AWB_3100_B_maxclip
195	83	82	AWB_5100_R_maxclip
196	88	88	AWB_tracking
197	53	56	EEP_awb_hall_outdoor
198	EC	EC	D_EEP_awb_margin_right
199	21	21	WB_BR_Slop
19A	3	0	D_EEP_awb_b_start
19B	82	0	D_EEP_awb_r_start
19C	8A	8A	awb_b_gain_pecnt
19D	84	83	awb_r_gain_pecnt
19E	12	12	awb_rhuen_5100
19F	12	6	awb_rhuep_5100
1A0	12	C	awb_bhuen_5100
1A1	28	20	awb_bhuep_5100
1A2	E	E	WB_Left_margin
1A3	6	4	WB_Right_margin
1A4	76	76	WB_detect_ratio
1A5	20	20	WB tracking speed
1A6	19	19	AWB_3100_R_contup_slop
1A7	60	60	WB_Adj_start
1A8	60	60	WB_Adj_clip
1A9	5E	76	WB_STOP_Release
1AA	A	A	D_EEP_AWB_y_divide
1AB	2	2	D_EEP_awb_b3100_move
1AC	0	0	D_EEP_awb_r3100_move
1AD	2	81	D_EEP_awb_b5100_move
1AE	2	2	D_EEP_awb_r5100_move
1AF	30	30	D_EEP_awb_stable_threshold
1B0	17	17	D_EEP_ZPHOTOH
1B1	30	12	D_EEP_ZPHOTOL
1B2	11	11	D_EEP_FPHOTOH
1B3	7D	7C	D_EEP_FPHOTOL
1B4	FF	FF	D_EEP_FTELEERRH
1B5	F3	EA	D_EEP_FTELEERRL
1B6	0	0	D_EEP_FWIDEERRH
1B7	1B	24	D_EEP_FWIDEERRL
1B8	9	9	D_EEP_ztzzver
1B9	80	80	D_EEP_af_top_thr
1BA	7F	7F	EEP_zmacro
1BB	5A	5A	EEP_ztrack_hall
1BC	18	18	AF_Low_ratio
1BD	D	D	EEP_AF_fend_bound
1BE	CA	8A	D_Mask_AF_Option

Addr.	NTSC	PAL	NAME
1BF	54	54	AF_ZigZag_threshold
1C0	A	A	AF_Top_threshold
1C1	4	4	AF_noise cutoff
1C2	18	18	AF clip data threshold
1C3	1	1	Zoom track version
1C4	20	30	ZTrack_iris_max/min
1C5	12	12	AF_Ratio_min
1C6	1E	1E	AF_Top_threshold
1C7	8	8	ZTrack_hysterysis
1C8	C	C	EEP_AF_spot_thr
1C9	3	3	EEP_AF_peak_judge
1CA	6	6	Lens_Adj_threshold
1CB	0	0	D_EEP_f4perrh
1CC	0	0	D_EEP_f4perrl
1CD	0	0	D_EEP_zoomhigh
1CE	40	40	D_EEP_macroarea
1CF	40	40	D_EEP_zzlongthres
1D0	77	90	D_EEP_wt_ve
1D1	3	5	D_EEP_wt_vs
1D2	C4	C4	D_EEP_wt_he
1D3	18	1C	D_EEP_wt_hs
1D4	70	70	D_EEP_wt_agc
1D5	4	4	D_EEP_wt__repeat
1D6	10	10	D_EEP_wt_poffset
1D7	1	1	D_EEP_CDS_weight
1D8	6	6	D_EEP_awbhalleff1
1D9	1	1	D_EEP_awbhalleff2
1DA	10	10	D_EEP_awbhlength
1DB	6	2	D_EEP_awb_outclip
1DC	1	1	
1DD	0	0	
1DE	84	84	D_EEP_ae_agcstart
1DF	28	28	D_EEP_awb_inittime
1E0	D8	D8	DIS_FRAME/STILL(B1π¯¡ˆ)
1E1	A0	C8	DIS_S1S2_SEL0 (CBπ¯¡ˆ)
1E2	0	0	DIS_TO(DEπ¯¡ˆ)
1E3	0	0	DIS_MAN_TO(DFπ¯¡ˆ)
1E4	2	2	DIS_TIIR_TH(E0π¯¡ˆ)
1E5	A0	CC	DIS_S1S2_SEL0(CBπ¯¡ˆ)
1E6	5	5	DIS_GR_MODE(C9π¯¡ˆ)
1E7	9B	9B	DIS_OUT_OFF(C7π¯¡ˆ)
1E8	98	98	DIS_FRAME/STILL(B1π¯¡ˆ)
1E9	A0	8C	DIS_S1S2_SEL0(CBπ¯¡ˆ)
1EA	AA	AA	DIS_TO(DEπ¯¡ˆ)
1EB	0	0	DIS_MAN_TO(DFπ¯¡ˆ)
1EC	0	0	DIS_TIIR_TH(E0π¯¡ˆ)
1ED	91	92	DIS_OUT_OFF1(C8π¯¡ˆ)
1EE	80	88	EEP_LowShut_cb_stil(CB)
1EF	80	88	EEP_LowShut_cb_stop(CB)
1F0	F0	EB	D_EEP_dis_dzstr

Addr.	NTSC	PAL	NAME
1F1	D5	D5	D_EEP_dis_dztele
1F2	D4	D4	D_EEP_dis_dzend
1F3	F0	0	D_EEP_dis_wide_dz
1F4	0	0	D_EEP_wide_dz
1F5	0	0	D_EEP_dis_dz(A)
1F6	0	0	D_EEP_dis_dz(B)
1F7	0	0	wide_dz(A)_point
1F8	0	0	wide_dz(B)_point
1F9	0	0	wide_dz(C)_point
1FA	28	28	D_EEP_disdemo_spd
1F5	0	0	
1F6	0	0	
1F7	0	0	
1FE	0	0	
1FF	0	0	
200	98	98	DIS_FRAME/STILL(B1π¯¡ˆ)
201	0	0	DIS_TO(DEπ¯¡ˆ)
202	80	80	DIS_MAN_TO(DFπ¯¡ˆ)
203	2	2	DIS_TIIR_TH(E0π¯¡ˆ)
204	7	7	D_EEP_dis_agcstop
205	0	0	D_EEP_dis_shten
206	4	4	D_EEP_dis_weight
207	5	5	D_EEP_dis_thresh
208	6	6	DIS_VGGAINX_TELE
209	7	7	DIS_VGGAINX_MIDDLE
20A	3	3	DIS_VGGAINX_WIDE
20B	A	10	DIS_V(x)_Criterion_ A
20C	18	20	DIS_V(x)_constant_C
20D	12	12	D_EEP_up_sht_agc
20E	31	31	D_EEP_down_sht_agc
20F	74	74	D_EEP_ae_agcmax_default
210	38	38	DSP_Hzoom_size
211	38	38	DSP_Vzoom_size
212	4	4	DSP_VSKIP_Default
213	0	0	MODE0_PIN38
214	80	80	EEP_Art_43
215	0	0	EEP_Emboss_43
216	5F	5F	EEP_Emboss_44
217	48	48	EEP_Emboss_46
218	AA	AA	EEP_Emboss_50
219	0	0	EEP_Emboss_51
21A	90	90	EEP_Emboss_52
21B	12	12	EEP_Emboss_53
21C	90	90	EEP_Emboss_54
21D	F	F	EEP_Emboss_55
21E	BF	BF	EEP_Emboss_56
21F	10	10	EEP_Emboss_57
220	18	18	EEP_Emboss_58
221	10	10	EEP_Emboss_59

Addr.	NTSC	PAL	NAME
222	0	0	EEP_Emboss_5A
223	20	20	EEP_Sepia_63
224	A0	A0	EEP_Sepia_72
225	3	3	D_EEP_still_cgain_n
226	3	3	D_EEP_still_cgain_agc
227	AA	55	D_EEP BW/MAKEUP_2
228	23	1	D_EEP BW/MAKEUP_3
229	7A	2A	D_EEP BW/MAKEUP_4
22A	A	A	LShutNORcsuppress
22B	2C	29	Lshutagc_csuppress
22C	74	74	ae_hall_limit_up
22D	68	68	ae_hall_limit_down
22E	2	2	D_EEP_zt_macro_zz
22F	0	0	
230	10	10	PI_one move zoom_H
231	0	0	PI_one move zoom_L
232	10	10	PI_one move focus_H
233	0	0	PI_one move focus_L
234	C	C	PI_lens check zoom 1
235	C	C	PI_lens check zoom 2
236	20	20	PI_lens check zoom 3
237	30	30	PI_lens check zoom 4
238	20	20	PI_lens check zoom 5
239	20	20	PI_lens check zoom 6
23A	3B	3B	PI_R out data
23B	73	73	PI_B out data
23C	92	92	PI_iris out data
23D	0	0	D_EEP_adj_out
23E	8	8	uart_baud
23F	1	0	D_EEP_MODEL
240	0	0	D_EEP_pannel_addrh
241	21	C9	D_EEP_pannel_addrL
242	0	0	D_EEP_data_display
243	0	0	
244	0	0	EEPROM Initialize
245	0	0	
246	FF	FF	D_EEP_lensadj_iris2
247	A0	A0	D_EEP_lensadj_iris
248	38	38	D_EEP_IRIS_SPD1
249	50	50	D_EEP_IRIS_SPD2
24A	70	70	D_EEP_IRIS_SPD3
24B	40	40	D_EEP_IRIS_SPD4
24C	38	38	D_EEP_SHUTTUD_SPD1
24D	C8	C8	D_EEP_hallrefstart
24E	0	0	program version(M)
24F	0	0	program version(D)
250	A7	A6	D_EEF_LCD_06
251	1	1	D_EEF_LCD_2C
252	FF	FF	D_EEF_LCD_42
253	26	66	D_EEF_LCD_60

Addr.	NTSC	PAL	NAME
254	40	40	D_EEF_LCD_70
255	40	40	D_EEF_LCD_71
256	F8	F8	D_EEF_LCD_72
257	F8	F8	D_EEF_LCD_73
258	40	40	D_EEF_LCD_74
259	40	40	D_EEF_LCD_75
25A	F8	F8	D_EEF_LCD_76
25B	F8	F8	D_EEF_LCD_77
25C	3B	3B	LCD_CRWB_67
25D	56	56	LCD_CBWB_68
25E	24	24	LCD_CGWB_69
25F	0	0	
260	0	0	SET_LENS_ADJ
261	0	0	SET_HALL_ADJ
262	90	90	SET_AE_TARGET_ADJ
263	0	0	SET_AGC_MAX_ADJ
264	0	0	SET_IRIS_ADJ
265	0	0	SET_3100K_ADJ
266	0	0	SET_5100K_ADJ
267	0	0	
268	0	0	PI_PROGRAM
269	0	0	PI_PROGRAM
26A	0	0	
26B	0	0	
26C	0	0	
26D	0	0	
26E	0	0	
26F	0	0	
270	30	30	Manual_iris25
271	40	40	Manual_iris26
272	50	50	Manual_iris27
273	60	60	Manual_iris28
274	6C	6C	Manual_iris29
275	0	0	
276	E9	E9	ZM table control
277	1	5	DIS POWER SAVE
278	10	10	
279	0	A0	
27A	8	8	D_EEP_right_divid
27B	4	4	D_EEP_left_divid
27C	4	4	D_EEP_clip_threshold
27D	E	C	D_EEP_bover_length
27E	10	10	
27F	0	0	
280	14	17	
281	14	17	
282	14	17	
283	14	17	
284	14	17	
285	14	17	

Addr.	NTSC	PAL	NAME
286	10	12	
287	D	E	
288	A	A	
289	7	7	
28A	4	4	
28B	4	4	
28C	0	0	
28D	0	0	
28E	0	0	
28F	0	0	

3-2-2 Camera Adjustment

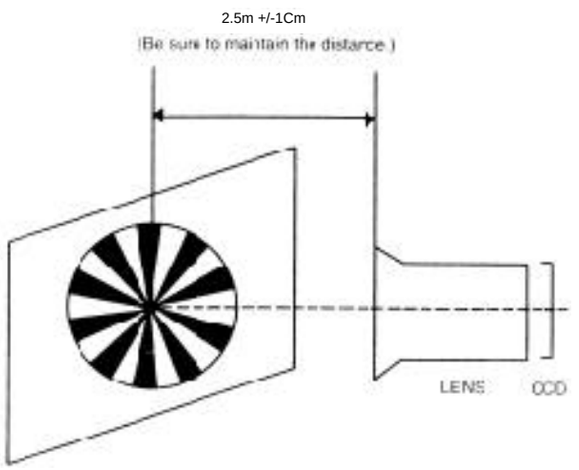
Note : "XX XX" indicate the previous preset value and adjusted value. Press the START/STOP (Confirm) button to store the adjusted value.

16D	XX	XX
	(Adjusted value)	(Stored value)

1. LENS ZOOM TRACK

Caution : For whole zoom range, it shall be in focus. The location of a focus lens is moving depending on the location of zoom lens. During adjusting, micom measures the focus location from a near distance to a long.

1) Camera is set to E-E mode.
2) Focus chart photo (the last page of manual)
3) Ensure that camera is left an about 2.5 m distance from a focus chart and the focus of lens is placed vertically. Attach a focus chart to white or gray wall of a flat surface.
4) Connect a video output terminal to a TV.
5) Press the FF(Mode Up)/REW(Mode Down) button so that OSD shows "260 XX XX".
6) Press the START/STOP (Confirm) button. Never impact on the lens when adjusting zoom and focus lens. There's is a flicker on screen after finishing the adjustment.



2. AUTO HALL

1) Camera mode & 3100˚ K gray scale chart
2) Connect a video output terminal to a TV.
3) Press the FF(Mode Up) / REW(Mode Down) button so that OSD shows "261 XX XX".
4) Press the START / STOP (Confirm) button.
5) Then micom finds out max. Hall value with an iris opened and min. Hall value with an iris closed. Store max. and min. value of Hall in 164 and 165 respectively.
6) There's is a flicker on screen after finishing the adjustment.

3. AE TARGET LEVEL

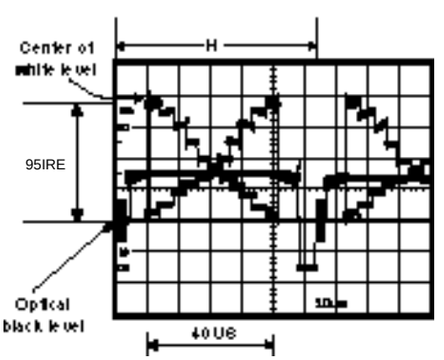
1) Camera mode & 3100˚ K gray scale chart
2) Connect a video output terminal to a wave form monitor and a TV.
3) Press the FF(Mode Up) / REW(Mode Down) button so that OSD shows "262 XX XX".
4) Press the SELF TIMER (PRE-CONFIRM) button.
5) Press the PLAY (Data Up) / STOP (Data Down) so that the signal level is 90IRE.
6) Press the START / STOP (Confirm) button.
7) There's is a flicker on screen after finishing the adjustment.

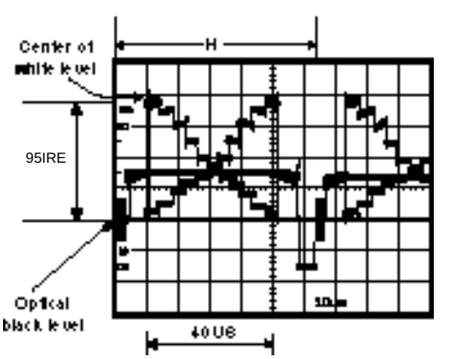
4. AUTO GAIN CONTROL

1) Camera mode & 3100˚ K gray scale chart
2) Connect a video output terminal to a wave form monitor and a TV.
3) Press the FF(Mode Up) / REW(Mode Down) button so that OSD shows "263 XX XX".
4) Press the START / STOP (Confirm)button. Then micom finds out the beginning value of AGC and stores the value in 16A
5) There's is a flicker on screen after finishing the adjustment.

5. AUTO IRIS LEVEL

1) Camera mode & 3100˚ K gray scale chart
2) Connect a video output terminal to a wave form monitor and a TV.
3) Press the FF(Mode Up) / REW(Mode Down) button so that OSD shows "264 XX XX".
4) Press the START / STOP (Confirm) button.
5) Then micom finds out max. Hall value with an iris opened and min. Hall value with an iris closed. Store max. and min. value of in 167and 168 respectively.
6) There's is a flicker on screen after finishing the adjustment.





6. AUTO WHITE BALANCE (indoor)

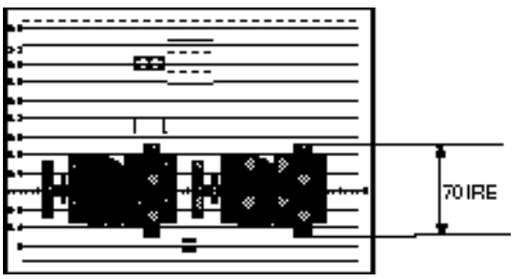
1) Camera mode & 3100˚ K / 5100˚ K gray scale chart
2) Connect a video output terminal to a vectorscope and a TV.
3) Press the FF(Mode Up) / REW(Mode Down) button so that OSD shows "265 XX XX".
4) Ensure that camera picks up image 40μs on 3100˚K gray scale chart precisely and the illumination is 1500-2000 Lux.
5) Press the START / STOP (Confirm) button to ensure that white spot on a vectorscope is moving in the middle of screen.
6) There's is a flicker on screen after finishing the adjustment.

7. AUTO WHITE BALANCE (outdoor)

1) Camera mode & 3100˚ K / 5100˚ K gray scale chart
2) Connect a video output terminal to a vectorscope and a TV.
3) Press the FF(Mode Up) / REW(Mode Down) button so that OSD shows "266 XX XX".
4) Ensure that camera picks up image 40 on 5100 gray scale chart (3100 gray scale chart + C16 filter) precisely and the illumination is 1500-2000 Lux.
5) Press the START / STOP (Confirm) button to ensure that white spot on a vectorscope is moving in the middle of screen.
6) There's is a flicker on screen after finishing the adjustment.

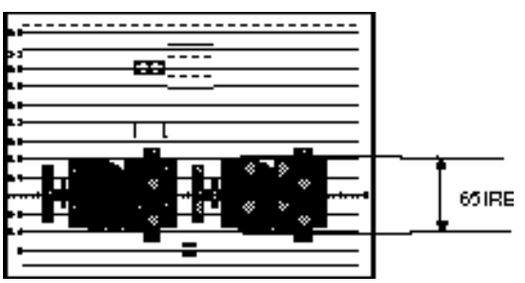
8. R-Y POSITIVE GAIN

1) Camera mode & 3100˚ K gray scale chart
2) Connect a video output terminal to a vectorscope and a TV.
3) Press the FF(Mode Up) / REW(Mode Down) button so that OSD shows "70 XX XX".
4) Ensure that camera picks up image on 3100˚ K color bar chart precisely and the illumination is 1500-2000 Lux.
5) Press the PLAY (Data Up) / STOP (Data Down) so that the red level is 70IRE.
6) Press the START / STOP (Confirm) button to store data.
7) There's is a flicker on screen after finishing the adjustment.



9. R-Y NEGATIVE GAIN)

1) Camera mode & 3100˚ K gray scale chart
2) Connect a video output terminal to a vectorscope and a TV.
3) Press the FF(Mode Up) / REW(Mode Down) button so that OSD shows "71 XX XX".
4) Ensure that camera picks up image on 3100˚ K color bar chart precisely and the illumination is 1500-2000 Lux.
5) Press the PLAY (Data Up) / STOP (Data Down) so that the cyan level is 65IRE.
6) Press the START / STOP (Confirm) button to store data.
7) There's is a flicker on screen after finishing the adjustment.

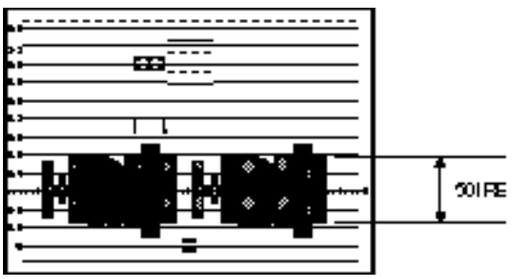


10. B-Y POSITIVE GAIN

1) Camera mode & 3100˚ K gray scale chart
2) Connect a video output terminal to a vectorscope and a TV.
3) Press the FF(Mode Up)/REW(Mode Down) button so that OSD shows "74XX XX".
4) Ensure that camera picks up image on 3100˚ K color bar chart precisely and the illumination is 1500-2000 Lux.
5) Press the PLAY (Data Up)/STOP (Data Down) so that the blue level is 50IRE.
6) Press the START/STOP (Confirm) button to store data.
7) There's is a flicker on screen after finishing the adjustment.

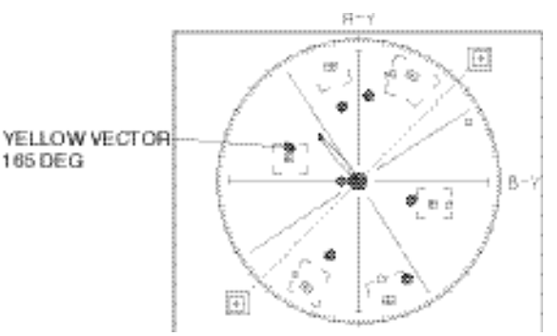
11. B-Y NEGATIVE GAIN

1) Camera mode & 3100˚ K gray scale chart
2) Connect a video output terminal to a vectorscope and a TV.
3) Press the FF(Mode Up)/REW(Mode Down) button so that OSD shows "75 XX XX".
4) Ensure that camera picks up image on 3100˚ K color bar chart precisely and the illumination is 1500-2000 Lux.
5) Press the PLAY (Data Up)/STOP (Data Down) so that the yellow level is 50IRE.
6) Press the START/STOP (Confirm) button to store data.
7) There's is a flicker on screen after finishing the adjustment.



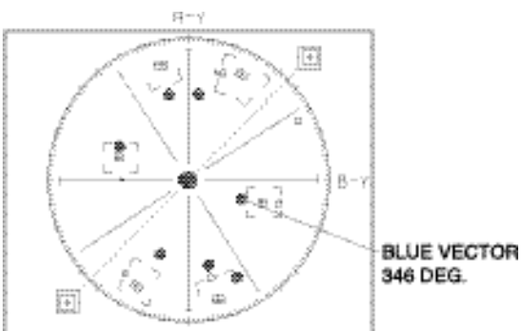
12. R-Y POSITIVE HUE

1) Camera mode & 3100˚ K gray scale chart
2) Connect a video output terminal to a vectorscope and a TV.
3) Press the FF(Mode Up)/REW(Mode Down) button so that OSD shows "72 XX XX".
4) Ensure that camera picks up image on 3100˚ K color bar chart precisely and the illumination is 1500-2000 Lux.
5) Press the PLAY (Data Up)/STOP (Data Down) so that the yellow vectors is 165˚ .
6) Press the START/STOP (Confirm) button to store data.
7) There's is a flicker on screen after finishing the adjustment.



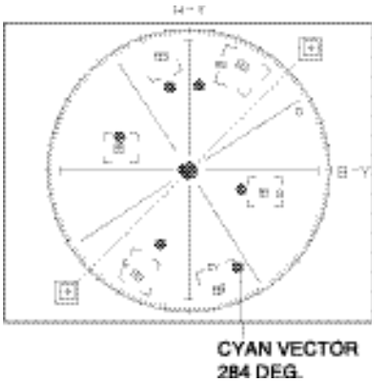
13. R-Y NEGATIVE HUE

1) Camera mode & 3100˚ K gray scale chart
2) Connect a video output terminal to a vectorscope and a TV.
3) Press the FF(Mode Up)/REW(Mode Down) button so that OSD shows "73 XX XX".
4) Ensure that camera picks up image on 3100˚ K color bar chart precisely and the illumination is 1500-2000 Lux.
5) Press the PLAY (Data Up)/STOP (Data Down) so that the blue vector is 346˚ .
6) Press the START/STOP (Confirm) button to store data.
7) There's is a flicker on screen after finishing the adjustment.



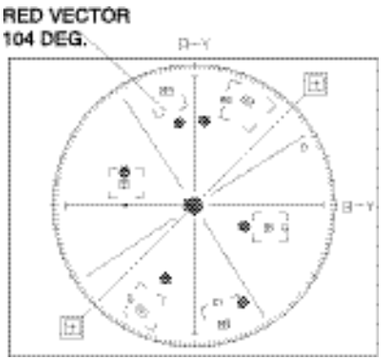
14. B-Y POSITIVE HUE

1) Camera mode & 3100˚ K gray scale chart
2) Connect a video output terminal to a vectorscope and a TV.
3) Press the FF(Mode Up)/REW(Mode Down) button so that OSD shows "76 XX XX".
4) Ensure that camera picks up image on 3100˚ K color bar chart precisely and the illumination is 1500-2000 Lux.
5) Press the PLAY (Data Up)/STOP (Data Down) so that the cyan vector is 284˚ .
6) Press the START/STOP (Confirm) button to store data.
7) There's is a flicker on screen after finishing the adjustment.



15. B-Y NEGATIVE HUE

1) Camera mode & 3100˚ K gray scale chart
2) Connect a video output terminal to a vectorscope and a TV.
3) Press the FF(Mode Up)/REW(Mode Down) button so that OSD shows "77 XX XX".
4) Ensure that camera picks up image on 3100˚ K color bar chart precisely and the illumination is 1500-2000 Lux.
5) Press the PLAY (Data Up)/STOP (Data Down) so that the red vector is 104˚ .
6) Press the START/STOP (Confirm) button to store data.
7) There's is a flicker on screen after finishing the adjustment.



3-3. LCD Adjustment

Notes: For LCD adjustment, use the buttons on the video camera and the remote control.
After each adjustment step is completed, OSD shows "OK".
EEPROM(ICL202) stores confirmed adjustment value of each adjustment step.
After finishing the adjustment, turn power off.

1. How to get into the LCD adjust mode.

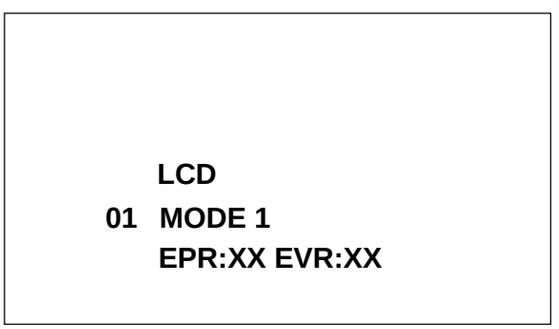
STEP 1

1. Connect the power source (battery / DC cable).
2. Set the "CAMERA / PLAYER" switch to "CAMERA" position.
3. Camera screen and OSD appears.
4. Open housing of the video camera and remove tape.

STEP2

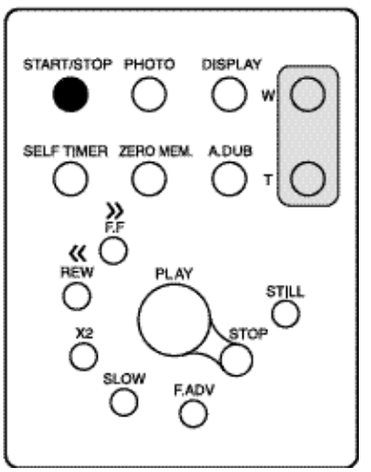
1) Press and hold the "EDIT(+)" button on the video camere and"SELF TIMER" button on the remote control at the same time for more than 5 seconds.
2) Press the “DISPLY” button to make color bar appear.

Monitor screen



When monitor OSD shows as above screen, LCD adjustment mode has been activated successfully.

Note : "XX" indicates variable values.



Remote Control Button Location

2. Functions of each button on the Remote Control

Button	Description
START / STOP (Confirm)	Stores changed value in the adjustment mode.
FF (Mode Up)	Shift adjustment address to left.
REW (Mode Down)	Shift adjustment address to right.
PLAY (Data Up)	Up value.
STOP (Data Down)	Down value.

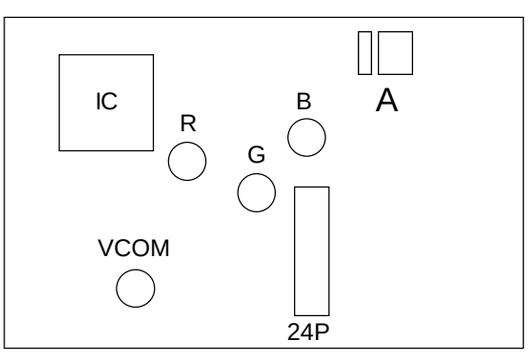
Note: In service adjustment mode, button names are different from those in customer function control mode.

3. Adjustment Mode Table

Address	Mode	PAL	NTSC	Remark
OD	VCO	3F	3F	VCO ---> Adjust
OA	VCOM	3D	3D	COM DC-->Adjust
17	BRIGHT	34	34	COM GA>Adjust
11	R-W/B	67	67	R-W/B -->Adjust
09	G-W/B	4F	4F	G-W/B-->Adjust
14	B-W/B	41	41	B-W/B-->Adjust
18	BRIGHT MIN	02	02	Brght varification of MIN direction for USER
19	BRIGHT MAX	02	02	Brght varification of MIN direction for USER
OC	COLOR MIN	02	02	Brght varification of MIN direction for USER
OC	COLOR MAX	02	02	Brght varification of MIN direction for USER
01	MODEL	78	F8	fix initial value
02	H POS	B9	B9	fix initial value
03	V POS	18	OA	fix initial value
04	MODE2	OF	OF	fix initial value
06	HD WID	B7	B7	fix initial value
07	VD POS	80	80	fix initial value
08	HD POS	B9	9E	fix initial value
OB	OSD	80	80	fix initial value
OE	SHARP	00	00	fix initial value
OF	TINT	64	64	fix initial value
10	GAMMA	B8	B8	fix initial value
12	LIMIT	70	70	fix initial value
13	CONT	80	80	fix initial value
15	R BRT	8F	8F	fix initial value
16	B BRT	6A	6A	fix initial value

*The Adjustment sequence is VCO-->VCOM-->BRIGHT-->R-W/B-->G-W/B-->B-W/B

4. Location of Adjustment TP

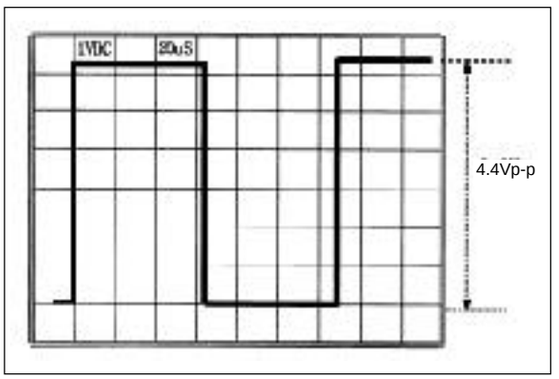


Note: In LCD adjustment mode, when shorting "A" of PCB to GND and pressing the START/STOP button, EEPROM stores confirmed adjustment value.

1) VCO
   a) TP-HD & EVR
   b) Connect an Freguency counter to TP-HD
   c) Adjust the EVR so that Freguency is 15.734khz (NTSC),15.625khz(PAL)

2) VCOM
   a) TP-VCOM & EVR
   b) Connect an voltmeter to TP-VCOM.
   c) Adjust the EVR so that DC voltage is DC 1.1±0.05 V.

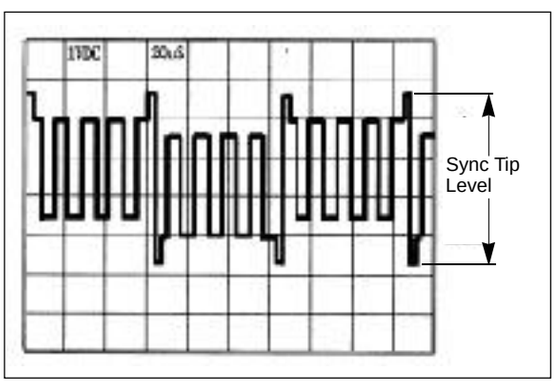
3) Brightness
   a) TP-VCOM & EVR
   b) Connect an oscilloscope probe to TP-VCOM.
   c) Adjust the EVR so that bright level is 4.4± 0.1 Vp-p.



4) R-W / B
   a) TP-R & EVR
   b) Connect an oscilloscope probe to TP-R.
   c) Adjust the EVR so that Sync tip level is 4.2 Vp-p.

5) G-W / B
   a) TP-B & EVR
   b) Connect an oscilloscope probe to TP-G.
   c) Adjust the EVR so that Sync tip level is 4.2 Vp-p.

6) B-W / B
   a) TP-B & EVR
   b) Connect an oscilloscope probe to TP-B.
   c) Adjust the EVR so that Sync tip level is 4.4 Vp-p.



3-5. EVF Adjustment

3-5-1. EVF adjustment Preparation

STEP 1

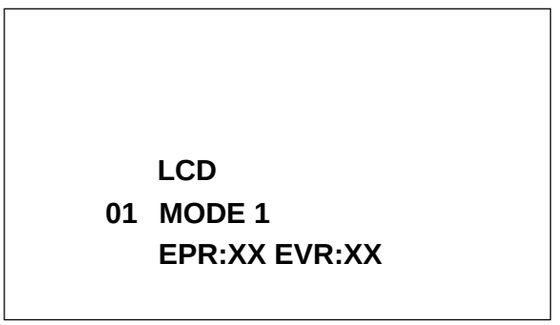
1) Connect the power source (battery/DC cable).
2) Set the "POWER(CAMERA/PLAY-ER)" switch to "CAMERA" position.

STEP 2

Press and hold the "EDIT(+)" button and "SELFTIMER" button on the video camera at the same time for more than 5 seconds.

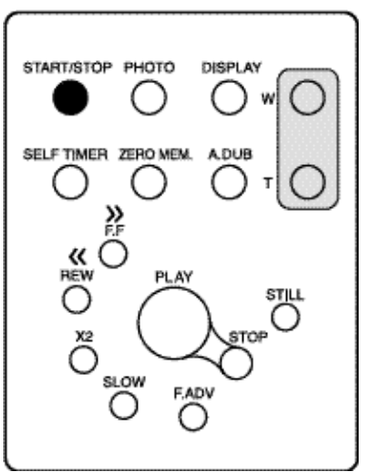
STEP 3

Press the “DISPLY” button to make color bar appear.



Monitor screen

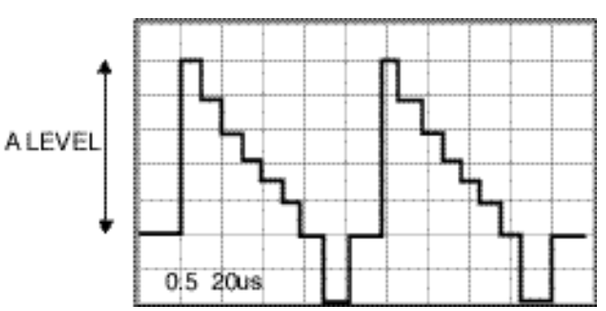
Note : "XX" indicates variable values.

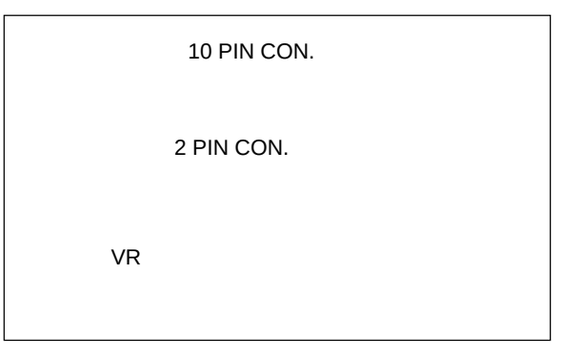


Remote Control Button Location

3-5-2. EVF adjustment

1) VIDEO GAIN
   a) Connect an oscilloscope probe to TP-V.
   b) Adjust the VRE02 so that A level is 2.5 Vp-p





Location of Test Point

3-6. CVF Adjustment

Notes : For CVF adjustment, use the buttons on the video camera and the remote control.
After each adjustment step is completed, OSD shows "OK".
EEPROM(ICV02) stores confirmed adjustment value of each adjustment step.
After finishing the adjustment, turn power off.

1. How to get into the CVF adjust mode.

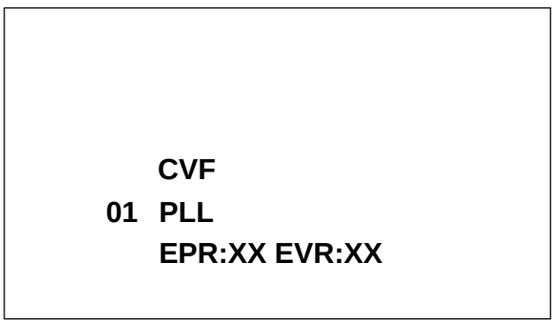
STEP 1

1) Connect the power source (battery / DC cable).
2) Set the "CAMERA / VCR" switch to "CAMERA" position and LCD is close.
3) Camera screen and OSD appears.
4) Open housing of the video camera and remove tape.

STEP 2

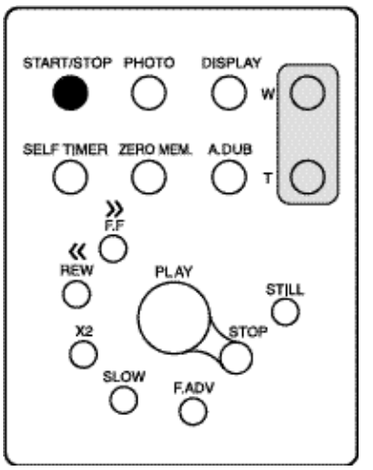
1) Press and hold the "EDIT(+)" buttonon the video camera and "SELF TIMER" button on the remote control at the same time for more than 5 seconds.
2) Press the “DISPLAY” button to make color bar appear.

Monitor screen



When monitor OSD shows as above screen, CVF adjustment mode has been activated successfully.

Note : "XX" indicates variable values.



Remote Control Button Location

2. Functions of each button on the Remote Control

Button	Description
START / STOP (Confirm)	Stores changed value in the adjustment mode.
FF (Mode Up)	Shift adjustment address to left.
REW (Mode Down)	Shift adjustment address to right.
PLAY (Data Up)	Up value.
STOP (Data Down)	Down value.

Note: In service adjustment mode, button names are different from those in customer function control mode.

3. Adjustment Mode Table

Address	Mode	PAL	NTSC	Remark
01	MODE1	34	B4	fix initial value
02	H POS	C8	B9	fix initial value
03	V POS	18	OA	fix initial value
04	MODE2	OF	OF	fix initial value
06	HD WID	B7	B7	fix initial value
07	VD POS	80	80	fix initial value
08	HD POS	B9	9E	fix initial value
09	RGB GA	C9	C9	fix initial value
0A	COM DC	3D	3D	fix initial value
0B	OSD	80	80	fix initial value
0C	GAIN	65	65	fix initial value
0D	VCO	98	BO	fix initial value
0E	SHARP	00	OO	fix initial value
0F	TINT	84	84	fix initial value
10	GAMMA	A4	A4	fix initial value
11	R WB	D2	D2	fix initial value
12	LIMIT	45	45	fix initial value
13	CONT	91	91	fix initial value
15	R BRT	75	75	fix initial value
16	B BRT	9D	9D	fix initial value
17	COM GA	34	34	fix initial value
18	BRIGHT	64	64	fix initial value